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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/538,286	07/05/2005	Heiko Brunner	B-7240	1772
7590		10/27/2009	EXAMINER	
Harding Earley Follmer & Frailey 86 The Commons at Valley Forge 1288 Valley Forge Road Post Office Box 750 Valley Forge, PA 19482-0750			WILLIS, DOUGLAS M	
		ART UNIT	PAPER NUMBER	
		1624		
		MAIL DATE	DELIVERY MODE	
		10/27/2009	PAPER	

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>		<b>Application No.</b>	<b>Applicant(s)</b>
10/538,286		BRUNNER ET AL.	
<b>Examiner</b>	<b>Art Unit</b>		
DOUGLAS M. WILLIS	1624		

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If no period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1) Responsive to communication(s) filed on 14 September 2009.  
 2a) This action is FINAL.      2b) This action is non-final.  
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4) Claim(s) 1 and 3-31 is/are pending in the application.  
 4a) Of the above claim(s) 15-29 and 31 is/are withdrawn from consideration.  
 5) Claim(s) \_\_\_\_\_ is/are allowed.  
 6) Claim(s) 1,3-10,12,13 and 30 is/are rejected.  
 7) Claim(s) 11 and 14 is/are objected to.  
 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

9) The specification is objected to by the Examiner.  
 10) The drawing(s) filed on 10 June 2005 is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All    b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) Notice of References Cited (PTO-892)  
 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)  
 3) Information Disclosure Statement(s) (PTO/SB/08)  
 Paper No(s)/Mail Date \_\_\_\_\_

4) Interview Summary (PTO-413)  
 Paper No(s)/Mail Date. \_\_\_\_\_

5) Notice of Informal Patent Application  
 6) Other: \_\_\_\_\_

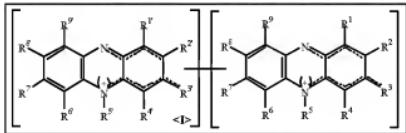
## DETAILED ACTION

### *Status of the Claims*

Claims 1 and 3-31 are pending in the current application. According to the *Amendments to the Claims*, filed September 14, 2009, claims 1, 3, 4, 6, 11, 12 and 14 were amended and claim 2 was cancelled. This application is a 35 U.S.C. § 371 National Stage Filing of International Application No. PCT/EP2003/013994, filed December 9, 2003, which claims priority under 35 U.S.C. § 119(a-d) to DE 102618526, filed December 20, 2002.

### *Status of Restrictions / Election of Species*

Applicant's affirmation of the following election, with traverse, in the reply filed on



p. 23, example vii.

September 24, 2009, is acknowledged: a) Group I - claims 1, 3-14 and 30; and b) substituted phenazinium salt of formula I -

The requirement was made FINAL in the *Non-Final Rejection*, mailed on April 10, 2009.

This application contains claims 15-29 and 31, drawn to nonelected inventions, with traverse, in the reply filed on September 14, 2009. A complete reply to the final rejection must include cancellation of nonelected claims or other appropriate action (37 CFR 1.144). See MPEP § 821.01.

The sections of U.S.C. Title 35 that formed the basis of prior rejections formulated, as well as any references supporting said rejections, that are not included with this Office action, may be found in the *Non-Final Rejection*, mailed on April 10, 2009. Furthermore, any rejections

or objections of record not explicitly addressed herein below, are hereby withdrawn, in light of applicant's arguments and/or the *Amendments to the Claims*, filed September 14, 2009.

Thus, a second Office action and prosecution on the merits of claims 1, 3-14 and 30 is contained within.

***Status of Claim Objections***

Applicant's arguments, on page 2 of the *Remarks*, filed September 24, 2009, with respect to the objection to claim 14, have been fully considered, but are not persuasive. Consequently, the objection to claim 14, made in the *Non-Final Rejection*, mailed on April 10, 2009, is hereby sustained for the reasons of record.

Claim 14 is objected to because of the following informalities: the hyphen between the cation and the anion of each species should be omitted. Appropriate correction is required.

***Status of Claim Rejections - 35 U.S.C. § 112, First Paragraph***

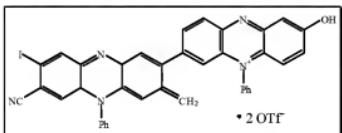
***Substituted phenazinium salts of the formulae <I> and <II>***

Applicant's arguments, on pages 2-5 of the *Remarks*, filed September 24, 2009, with respect to claims 1, 3-10, 12, 13 and 30, have been fully considered, but are not persuasive. Consequently, the rejection of claims 1, 3-10, 12, 13 and 30, made in the *Non-Final Rejection*, mailed on April 10, 2009, is hereby maintained for the reasons of record.

Applicant primarily argues that the examiner has *not presented proof* that the oligomeric compounds disclosed and claimed as part of applicant's invention, if added to an acidic copper electroplating bath, would not function to achieve the desired results. Furthermore, applicant argues that the scope of the amended claims is enabled under 35 U.S.C. § 112, first paragraph.

In response to applicant's argument that the examiner has *not presented proof* that the oligomeric compounds disclosed and claimed as part of applicant's invention, if added to an acidic copper electroplating bath, would not function to achieve the desired results and that the scope of the amended claims is enabled under 35 U.S.C. § 112, first paragraph, the examiner respectfully disagrees.

Currently, applicant's elected invention is directed to Group I, drawn to a mixture of substituted oligomeric phenazinium compounds of the formula <I> and <II>. Based on the guidance provided by the specification and, absent any evidence to the contrary, it is presently unclear whether a substituted phenazinium salt of the formulae <I>, such as 7'-cyano-7-hydroxy-



8'-ido-3'-methylene-5',10-diphenyl-3',5',5'a,10'a-tetrahydro-2,2'-biphenazin-10-ium ditriflate salt, shown to the left, is either synthetically feasible or

possesses utility as a constituent in a copper plating bath.

The examiner requires that applicant either: (1) a) discretely indicate where the specification enables one of ordinary skill in the art to make the phenazinium salt of the formula <I>, shown above; and b) discretely identify enabling disclosure that will allow one of ordinary skill in the art to use the phenazinium salt of the formula <I>, shown above, as a constituent in a copper plating bath; or preferably (2) omit the recitation  $R^2$ ,  $R^{2''}$ ,  $R^3$ ,  $R^{3'}$ , and  $R^{3''}$  may additionally be selected from the group consisting of oxo, imino and methylene with the proviso that a monomeric unit substituted by oxo, imino or methylene comprises the structure unit  $N(R^{5/5'/5''})CC(R^{4/4'/4''})C(R^{3/3'/3''})$  of the general chemical formula <IIIb>, wherein further, if  $R^2, R^{2''}, R^3, R^{3'}$  and  $R^{3''}$  are not oxo, imino or methylene, the structure unit  $NCC$

*(R<sup>1/1/1/1</sup>)C(R<sup>2/2/2</sup>)* has one of the following general chemical formula <IVa> or <IVb>..., to overcome this rejection.

Applicant should note that the enablement requirement refers to the requirement of 35 U.S.C. § 112, first paragraph that the specification describe how to make and how to use the invention. The invention that one skilled in the art must be enabled to make and use is that defined by the claims of the particular application or patent.

The purpose of the requirement that the specification describe the invention in such terms that one skilled in the art can make and use the claimed invention is to ensure that the invention is communicated to the interested public in a meaningful way. The information contained in the disclosure of an application must be sufficient to inform those skilled in the relevant art how to both make and use the claimed invention. A patent claim is invalid if it is not supported by an enabling disclosure.

Any analysis of whether a particular claim is supported by the disclosure in an application requires a determination of whether that disclosure, when filed, contained sufficient information regarding the subject matter of the claims as to enable one skilled in the pertinent art to make and use the claimed invention. The standard for determining whether the specification meets the enablement requirement was cast in the Supreme Court decision of *Mineral Separation v. Hyde*, 242 U.S. 261, 270 (1916) which postured the question: is the experimentation needed to practice the invention undue or unreasonable? That standard is still the one to be applied. {See *In re Wands*, 858 F.2d 731, 737, 8 USPQ2d 1400, 1404 (Fed. Cir. 1988)}. Accordingly, even though the statute does not use the term *undue experimentation*, it has been interpreted to require that the claimed invention be enabled so that any person skilled in the art can make and use the

invention without undue experimentation. {See *In re Wands*, 858 F.2d at 737, 8 USPQ2d at 1404 (Fed. Cir. 1988); and *United States v. Electronics, Inc.*, 857 F.2d 778, 785, 8 USPQ2d 1217, 1223 (Fed. Cir. 1988)}.

***Status of Claim Rejections - 35 U.S.C. § 112, Second Paragraph***

The following is a quotation of the second paragraph of 35 U.S.C. § 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

***Amino***

Applicant's arguments, on page 6 of the *Remarks*, filed September 24, 2009, with respect to claims 1, 3-10, 12, 13 and 30, have been fully considered, but are not persuasive. Consequently, the rejection of claims 1, 3-10, 12, 13 and 30, made in the *Non-Final Rejection*, mailed on April 10, 2009, is hereby maintained for the reasons of record.

The term *amino*, in claim 1, is a relative term which renders the claims indefinite. The term *amino* is not defined by the claims, the specification does not provide an adequate standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. The claims recite alkylated *amino* groups; however, the term *amino* is not explicitly limited to these preferred embodiments. Are *-NH<sub>2</sub>*, *-NHCOR*, etc. also commensurate in scope with the claims? Thus, the substituted phenazinium salts of the formulae <I> and <II> have been rendered indefinite by the use of the term *amino*.

The examiner suggests removal of the term *amino* and providing discrete *amino* substituents for each occurrence where *amino* substituents are desired, to overcome this rejection.

***Lack of antecedent basis - claim 30***

Claim 30 recites the limitation *the mixture of oligomeric phenazinium compounds according to claim 2...* in *lines 1-2* of the claim. There is insufficient antecedent basis, in claim 2, for this limitation with regard to the substituted phenazinium salts of the formulae <I> and <II>. According to the *Amendments to the Claims*, filed March 10, 2009, and the *Amendments to the Claims*, filed September 14, 2009, claim 2 has been cancelled by applicant.

***New Claim Objections***

Claim 11 is objected to because of the following informalities: the claim is dependent upon a rejected base claim. Appropriate correction is required.

***New Claim Rejections - 35 U.S.C. § 112, Second Paragraph***

The following is a quotation of the second paragraph of 35 U.S.C. § 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 12 is rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In a dependent claim, the recitation of the *source* of a product from which the claim depends, wherein said *source* does not result in a patentably distinct structural limitation to said product, renders the claim in which said *source* is recited, and any depend claims therefrom, indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In the instant dependent claim, the clause *wherein the mixture is produced with a method comprising the following method steps:...* is deemed to merely

articulate how the mixture of oligomeric phenazinium compounds, according to claim 1, is synthesized and thus, fails to result in a patentably distinct structural limitation to the mixture of oligomeric phenazinium compounds, according to claim 1.

The examiner suggests either amending or cancelling claim 12, to overcome this rejection.

*Allowable Subject Matter*

No claims are allowed.

*Conclusion*

Applicant's amendment necessitated the new ground of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DOUGLAS M. WILLIS, whose telephone number is 571-270-

5757. The examiner can normally be reached on Monday thru Thursday from 8:00-6:00 EST. The examiner can also be reached on alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. James O. Wilson, can be reached on 571-272-0661. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/DOUGLAS M WILLIS/  
Examiner, Art Unit 1624

/James O. Wilson/  
Supervisory Patent Examiner, AU 1624